

Town of Superior Raptor Monitoring 2020 Summary



Red-tailed Hawk with nestlings

Sponsored by the
Open Space Advisory Committee

Introduction:

2019-2020 marked the second full session of a raptor monitoring program sponsored by the Town of Superior's Open Space Advisory Committee. The program has several goals: determining what raptor species are present in Superior, learning what areas raptors use at different times of the year, monitoring any nesting activity, working to prevent unnecessary disturbance to raptors, identifying habitats to protect, and providing relevant education to the Town's residents.

Twelve volunteer observers, all Superior residents, monitored ten general locations approximately weekly between early winter and late summer. They identified 14 species of raptors, including eagles, falcons, hawks, and owls. Some of these species use open spaces in Superior only intermittently, for hunting or migration. However, monitors determined that four species nested in or adjacent to Superior in 2020; 14 nests were located and all but one of them produced fledglings. The nesting species were Great Horned Owl, Red-tailed Hawk, Cooper's Hawk, and American Kestrel. These four raptors are well known for being able to adapt to living near humans and to reproduce successfully in a suburban environment.

Methods and Results:

Volunteer observers received orientation training, monitored designated areas regularly between early winter and late summer, and submitted observation reports to the project coordinator. If courtship activity or a nest was discovered, volunteers increased their observation frequency at that site. They identified the following species of raptors (with observed seasonal and area usage info in parentheses.)

Northern Harrier (winter visitor; hunts in open areas along the town boundaries)

Sharp-shinned Hawk (winter visitor; hunts in suburban areas with trees)

Cooper's Hawk (year-round resident and nester; found in areas with large or dense trees)

Broad-winged Hawk (very rare passage migrant)

Swainson's Hawk (summer visitor; hunts in open areas)

Red-tailed Hawk (year-round resident and nester; found in areas with very large trees bordering open space)

Ferruginous Hawk (winter visitor; hunts in open areas especially near prairie dog colonies)

Bald Eagle (year-round visitor; hunts in prairie dog colonies and at Hodgson-Harris Reservoir)

Golden Eagle (winter visitor; hunts in open areas especially near prairie dog colonies)

Osprey (migrant and intermittent visitor to Hodgson-Harris Reservoir)

American Kestrel (year-round resident and nester; found in open areas with patches of trees)

Prairie Falcon (year-round visitor; hunts in open areas)

Peregrine Falcon (summer visitor; hunts in open areas)

Great Horned Owl (year-round resident and nester; nests and roosts in very large trees, hunts in open areas and residential neighborhoods)

Seen in 2018-19 but not 2019-20:

Barn Owl

Burrowing Owl

Eastern Screech-Owl

The following areas received regular monitoring:

Rock Creek riparian corridor (Autrey Park) - nesting and hunting Great Horned Owls; hunting American Kestrels and Red-tailed Hawks.

Rock Creek riparian corridor (Community Park) - nesting and hunting Cooper’s Hawks, Red-tailed Hawks, and American Kestrels; hunting or migrating Bald Eagles, Golden Eagles, and Swainson’s Hawks.

Coalton trailhead area - nesting and hunting Red-tailed Hawks and Great Horned Owls; hunting Ferruginous Hawks and Golden Eagles.

Coal Creek riparian corridor (Original Town) - nesting and hunting Cooper’s Hawks and American Kestrels; hunting Great Horned Owls, Peregrine Falcons, Red-tailed Hawks.

Mayhoffer-Singletree trailhead area including Ochsner open space - nesting and hunting Great Horned Owls; hunting Cooper’s Hawks, Bald Eagles, Northern Harriers, Prairie Falcons, American Kestrels, and Red-tailed Hawks; migrating Broad-winged Hawks.

Heartstrong Park area - nesting and hunting Great Horned Owls, Cooper’s Hawks, and American Kestrels.

Purple Park - Riverbend park corridor - nesting and hunting Cooper’s Hawks; hunting Great Horned Owls and Red-tailed Hawks.

Hodgson-Harris Reservoir - hunting and migrating Great Horned Owls, Bald Eagles, Osprey, Cooper’s Hawks, Swainson’s Hawks, Northern Harriers, and Prairie Falcons.

Southwest Superior - hunting Great Horned Owls, Sharp-shinned Hawks, Cooper’s Hawks, Red-tailed Hawks, and American Kestrels.

“Marshall Road Properties” - nesting and hunting Red-tailed Hawks.

All of the species that were observed to attempt nesting had at least one successful nest, as shown in Table 1.

Table 1 – Nest numbers and fledgling production in Superior

Species	Number of Nests		Number of Fledglings	
	2019	2020	2019	2020
Great Horned Owl	3	4	10	10
Red-tailed Hawk	3	3	8	3
Cooper’s Hawk	3	5	≥7	17
American Kestrel	1	3	1	9

Note that differences in the number of observed nests between 2019 and 2020 may be due to changes in monitoring coverage and frequency in some areas. However, the decrease in Great Horned Owl fledglings per nest is accurate and represents a return to a more usual production after 2019’s exceptionally high success rate. It is possible that populations of prey animals were lower this year. At least one Great Horned Owl nestling did not survive to fledging age, which is a normal occurrence. A fledgling from another nest suffered a head injury after crashing on one of its first flights. It was carefully retrieved by a volunteer monitor and taken to a rehab facility where it appears to have made a full recovery.

Although three American Kestrel nests are listed in Table 1, monitors only directly observed one of them. The other two were inferred based on territorial and courtship behavior (including copulation) in the spring, followed by the appearance of fledglings in the same area about ten weeks later.

We were interested to see how Red-tailed Hawks would react to the loss of two of last year's nests (one due to tree removal and one taken over by Great Horned Owls.) One pair refurbished an existing unused nest and successfully fledged young from it, while the other pair attempted to build a new nest on a power pylon but later abandoned it.

Nest boxes:

In the fall of 2019, the Town of Superior installed several nest boxes in the hope of attracting additional cavity-nesting raptors [1]. Three boxes designed for Eastern Screech-Owls were installed in a wooded area along Coal Creek. Providing multiple boxes can improve the likelihood of owl nesting for several reasons [2]. However, no Screech-Owls were detected in any of the boxes in spring of 2020. The boxes remain in place and may be more successful in the future.

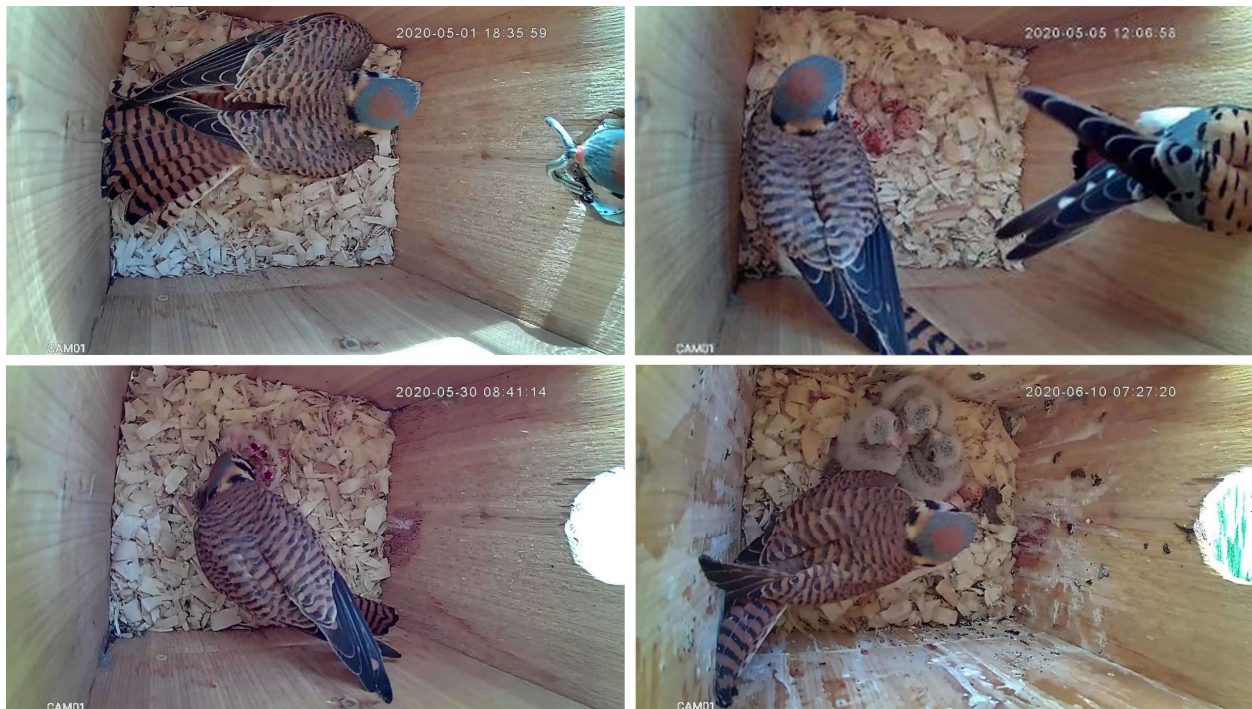


Figure 1 - Top row: Male American Kestrel presenting small snake to female; Five eggs. Bottom row: Female feeding tiny nestlings; Nestlings growing larger. (Photos courtesy Alicia Beck)

In addition, the Town installed one box for American Kestrels in the Rock Creek riparian corridor. Although a pair of Kestrels established a territory in that immediate area, they did not choose to nest in the box. It is possible that heavier-than-usual human traffic along a nearby social trail during the nesting season caused the Kestrels to look elsewhere. Volunteers also monitored two Kestrel boxes installed at private residences. Kestrels showed interest in both of those boxes in early spring and successfully raised young in one of them, in which the entire nesting process was captured via a web camera (see Figure 1).

Species Spotlight - Cooper's Hawk:

One of the most visible and successful raptors in Superior is the Cooper's Hawk. Historically, Cooper's Hawks hunted and nested in remote forests, where their short wings and long tails give them incredible quickness and maneuverability. With the growth of new suburban "forests" along the Front Range, they have been increasingly attracted to towns. Since Cooper's Hawks prey primarily on other birds, they also find appealing year-round hunting at backyard bird feeders. In 2020 there were five nesting pairs in Superior (see Figure 2) and there is likely room for several more nesting territories.



Figure 2 - Female Cooper's Hawk standing guard over nestlings.

In many suburban areas, Cooper's Hawks help to control populations of non-native bird species including the Eurasian Collared-Dove. However, their presence around bird feeders is not always welcomed by homeowners. Cooper's Hawks are also well known for their often fierce defense of their nests and offspring. This behavior can be startling for nearby human residents since the hawks are not afraid to shriek at or dive-bomb any perceived intruder near their nest site.

Recommendations:

Based on monitors' observations, we make several recommendations to help ensure that raptors can continue to survive in Superior.

- *Discourage the use of all rodenticides outdoors.* Many of the parent raptors were observed delivering small rodents to their nestlings. A rodent that has ingested poison but not yet died can pass the toxins on to a raptor that eats it, and such poisonings are a significant cause of death among many raptor species [3].
- *Preserve large trees, especially Plains Cottonwoods.* All but one of the observed Great Horned Owl and Red-tailed Hawk nests were in mature Plains Cottonwood trees, which have strong horizontal branches near their tops that can support the substantial nests needed by large raptors. American Kestrels also frequently nest in hollow knotholes in mature cottonwoods.
- *Provide artificial nest boxes.* Cavity-nesting raptors such as American Kestrels and Eastern Screech-Owls can be outcompeted for available natural nest sites by non-native species such as European Starlings and Eastern Fox Squirrels. Barn Owls have few nesting options in plains areas and thus will readily use nest boxes.
- *Avoid unnecessary human disturbance of nesting areas during courtship and nesting season if possible.* This may include construction, arborist work, or overeager photographers.
- *Minimize widespread use of insecticides.* Insects make up a significant part of the food chain of several local raptor species, including American Kestrels, Swainson's Hawks, Cooper's Hawks, and Eastern Screech-Owls. Reduction of food sources and toxicity due to accumulated insecticides can reduce raptor breeding success [4].

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For more information about the raptor monitoring program, or to volunteer as a monitor, please contact OSAC@superiorcolorado.gov.

References:

[1] In collaboration with the Colorado Avian Research and Rehabilitation Institute

[2] Rashid, Scott. Pers. comm.

[3] <https://www.allaboutbirds.org/news/raptors-and-rat-poison/> ;
http://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201920200AB1788&showamends=false

[4] <https://www.audubon.org/news/are-kestrels-new-poster-species-pesticides>

NOTE: All photos in this document were taken with high-magnification telephoto lenses or hidden cameras in order to minimize disturbance to the raptors.